WHAT IS CLAIMED IS:

1. A profile measuring method of calculating, using a phase shift method, a phase value of an interference image formed by a light beam reflected from an object and a light beam reflected from a reference mirror, thereby obtaining an optical path difference from the calculated phase value and obtaining a profile of the object from the optical path difference, comprising:

emitting, to the object, two flash light beams, having wavelengths slightly different from each other, with a predetermined interval t_1 therebetween; and

picking up, using a camera, interference light formed by light beams reflected from the object and a light beam reflected from the reference mirror, while moving the object in a direction, in which the two flash light beams are directed, in units of intervals t_2 at which each of the two flash light beams is cyclically emitted, a phase shift amount corresponding to a movement amount of the object at a time being set to a value falling within a range of $2n\pi \pm \pi/2 \pm \pi/4$.

2. A profile measuring method according to claim 1, wherein the two flash light beams are light beams of predetermined wavelengths obtained by passing white light emitted from flash lamps through band-pass filters.

3. A profile measuring method according to

claim 1, wherein the camera has a high-speed double exposure function.

4. A profile measurement apparatus comprising:

a first flash light source which emits a flash light beam of a first wavelength;

a second flash light source which emits a flash light beam of a second wavelength, different from the first wavelength, with an interval t_1 from the light beam of the first wavelength;

a movement table which moves an object in a direction in which the flash light beams from the first and second flash light sources are directed to the object;

a translucent mirror which diverges, to a reference mirror, part of the two flash light beams emitted from the first and second flash light sources and directed to the object, the translucent mirror returning, to an original route, light reflected from the reference mirror;

a camera which picks up, as an image, interference light formed by light reflected from the object and light reflected from the reference mirror;

a table control section which moves the movement table by a predetermined distance in synchronism with an interval t_2 between successive emissions of light from the first and second flash light sources; and

an image processing unit which selects an image

signal with a maximum amplitude from a plurality of images output from the camera when the movement table has been moved by the predetermined distance in synchronism with the interval t_2, thereby determining an optical path difference on the basis of a phase difference between two interference images created by the two flash light beams emitted from the first and second flash light sources when the camera has picked up the image signal with the maximum amplitude, and also on the basis of phase values of the interference images assumed when the camera has picked up the image signal with the maximum amplitude.

5. A profile measurement apparatus according to claim 4, wherein the first and second flash light sources emit light beams of predetermined wavelengths obtained by passing white light emitted from flash lamps through band-pass filters.

6. A profile measurement apparatus according to claim 4, wherein the camera has a high-speed double exposure function for individually picking up two interference images formed by two light beams of different wavelengths emitted with a slight interval of 1 msec. at maximum, preferably, 200 nsec. to 50 microsec., and more preferably, 10 microsec.

7. A profile measurement apparatus according to claim 4, wherein the movement table is moved in synchronism with the interval t_2 between successive

emissions of light from the first and second flash light sources, in a direction in which the two flash light beams are directed, such that the movement table can provide a phase shift amount falling within a range of $2n\pi \pm \pi/2 \pm \pi/4$, n being an integer not less than 1.

8. A profile measurement apparatus comprising:

a first flash light source which emits a flash light beam of a first wavelength;

a second flash light source which emits a flash light beam of a second wavelength, different from the first wavelength, with an interval t_1 from the light beam of the first wavelength;

a movement table which moves an object in a direction in which the flash light beams from the first and second flash light sources are directed to the object;

a translucent mirror which diverges, to a reference mirror, part of the two flash light beams emitted from the first and second flash light sources and directed to the object, the translucent mirror returning, to an original optical path, light reflected from the reference mirror;

a camera which picks up, as an image, interference light formed by light reflected from the object and light reflected from the reference mirror;

a table control section which moves the movement table by a predetermined distance in synchronism with

an interval t_2 between successive emissions of light from the first and second flash light sources; and

an image processing unit which selects an image with a maximum amplitude from a plurality of images output from the camera each time the first and second flash light sources emit their respective light beams with the interval t_1 interposed therebetween, and also each time the movement table is moved by the predetermined distance in synchronism with the interval t_2, the image processing unit then calculating an optical path difference from two interference images formed by the two light beams emitted from the first and second flash light sources and reflected from a surface of the object, the image processing unit calculating respective optical path differences at the points, thereby determining a surface profile of the object on the basis of phase values of the two flash light beams emitted from the first and second flash light sources when the camera has picked up an image signal with a maximum amplitude from the output images at each of the points of the to-be-measured area of the object.

9. A profile measurement apparatus according to claim 8, wherein the first and second flash light sources emit light beams of predetermined wavelengths obtained by passing white light emitted from flash lamps through band-pass filters.

10. A profile measurement apparatus according to claim 8, wherein the camera has a high-speed double exposure function for individually picking up two interference images formed by two light beams of different wavelengths emitted with a slight interval of 1 msec. at maximum, preferably, 200 nsec. to 50 microsec., and more preferably, 10 microsec.

11. A profile measurement apparatus according to claim 8, wherein the movement table is moved in synchronism with the interval t_2 between successive emissions of light from the first and second flash light sources, in a direction in which the two flash light beams are directed, such that the movement table can provide a phase shift amount falling within a range of $2n\pi \pm \pi/2 \pm \pi/4$, n being an integer not less than 1.